

REMARKS

In response to the Office Action mailed August 13, 2007, Applicants respectfully request reconsideration. To further the prosecution of this Application, Applicants submit the following remarks. The claims as presented are believed to be in allowable condition.

Claims 1-2, 5-8, 10, 13-16, 18-19, 26, and 29-41 were pending in this Application. No claims have been amended. Claims 1, 2, 10, and 18 are independent claims.

Rejections under §103

Claims 1-2, 5-8, 10, 13-16, 18-19, 26, and 29-41 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,737,582 (Van Lieu, et al.) in view of U.S. Patent No. 5,525,074 (Tsuiji, et al.).

Applicants respectfully traverse each of these rejections and request reconsideration. The claims are in allowable condition.

Van Lieu discloses a power connector 10 for mounting to a rack 12 (Col. 2, lines 6-8). The power connector includes a power output 26 to receive a plug 19 of a cable 20 connected to an internal power source 18 and a power input 28 to receive a plug 30 of a cable 32 connected to an external power source 34 (Col. 2, lines 17-28). The power output 26 and the power output 28 connect across terminals 40, 42, 44 and leads 64, 66, 54 (Col. 3, lines 26-40).

Tsuiji discloses a female panel-mounted connector 41 to connect to a panel P and a mated male connector 43 (Col. 3, lines 22-28). The female connector 41 includes a connector housing 45 formed with a plurality of terminal-accommodating chambers for receiving wires W (Col. 3, lines 26-32). The connector housing also includes (in an integrated fashion) an engagement hood

portion 47 to mate with the male connector 43 (Col. 3, lines 30-34). The connector housing 45 also includes flexible lock arms 57, 59 (Col. 3, lines 43-49). These flexible lock arms 57, 59 serve to lock the female connector 41 to the panel P when the female connector 41 is mated to the male connector 43 (Col. 4, lines 1-30).

Claims 10, 13-16, 33-34, and 39

Claim 10 recites a device for fastening a plug of a power cord to a frame which is configured to support a power supply. The device includes a body configured to attach to an installation location of the frame and substantially hold the plug at the installation location of the frame when the power supply connects with and disconnects from the plug. The body includes a first end wall, a second end wall, and lateral walls which connect the first end wall and the second end wall together. When the body substantially holds the plug at the installation location of the frame and when the body is attached to the installation location of the frame, (i) the first end wall is configured to restrain the plug in a positive Z direction relative to the frame, (ii) the second end wall is configured to restrain the plug in a negative Z direction relative to the frame, the negative Z-direction being opposite to the positive Z direction along a Z-axis, and (iii) the lateral walls are configured to register the plug relative to the frame in an X Y plane which is perpendicular to the Z axis. The plug of the power cord and the body of the device are separate components. The body of the device is configured to capture the plug in an interference fit manner and present a physical connection interface of the plug to the power supply for direct physical mating between the physical connection interface of the plug and the power supply when the device fastens the plug to the frame.

The cited references do not teach or suggest, either alone or in combination a device having a *body configured to* attach to an installation

location of a frame and *substantially hold a plug of a power cord at the installation location*, the body including a first end wall and a second end wall, the *first end wall being configured to restrain the plug in a positive Z direction* relative to the frame, the *second end wall being configured to restrain the plug in a negative Z direction* relative to the frame, the negative Z-direction being opposite to the positive Z direction along a Z-axis, *the plug of the power cord and the body of the device being separate components*, the body of the device being *configured to capture the plug in an interference fit manner and present a physical connection interface of the plug to the power supply for direct physical mating between the physical connection interface of the plug and the power supply* when the device fastens the plug to the frame.

Rather, Van Lieu discloses a power connector 10 for mounting to a rack 12 (Col. 2, lines 6-8). Van Lieu does not disclose a device having a body with a first end wall and a second end wall, the *first end wall being configured to restrain the plug in a positive Z direction* relative to the frame, the *second end wall being configured to restrain the plug in a negative Z direction* relative to the frame, the negative Z-direction being opposite to the positive Z direction along a Z-axis. While each plug 19, 30 is restrained in one direction along the Z-axis, no wall of the power connector 10 restrains either plug 19, 30 in the opposite direction along the Z-axis.

Furthermore, Van Lieu does not disclose the *body of the device being configured to capture the plug in an interference fit manner and present a physical connection interface of the plug to the power supply for direct physical mating between the physical connection interface of the plug and the power supply* when the device fastens the plug to the frame. Indeed, while plug 30 may plug into power input 28 and plug 19 may plug into power output 26, there is no indication that either of these connections is an *interference fit*. Indeed, power output 26 is clearly depicted as a three-pronged standard power plug receptacle which does not hold a three-pronged standard power plug in an interference fit,

but merely holds the prongs of a three-pronged standard power plug. Although male receptacles 26, 28 are also disclosed (Col. 2, lines 36-43), there is no indication that this would be accomplished with an *interference fit*.

Furthermore, the plugs 19, 30 do not *directly physically mate* – rather they connect across terminals 40, 42, 44 and leads 64, 66, 54 (Col. 3, lines 26-40). In addition, the power connector 10 does not *present a physical connection interface* of either plug 19 or 30 *to the power supply for direct physical mating between the physical connection interface of the plug and the power supply*. That is, neither plug 19, 30 mates directly into internal power source 18 nor with external power source 34, and in either case, any connection between either plug 19, 30 and either power source 18, 34 is not presented by the power connector 10.

In addition, the cited portions of Tsuji do not teach a device for holding a plug of a power cord at an installation location of a frame *wherein the plug of the power cord and the body of the device are separate components, the body of the device being configured to capture the plug in an interference fit manner and present a physical connection interface of the plug to the power supply for direct physical mating between the physical connection interface of the plug and the power supply when the device fastens the plug to the frame*. The Office Action cited the connector housing 45 of female panel-mounted connector 41 as being a device that fastens a plug (female panel-mounted connector 41) to a frame (panel P). However, connector housing 45 and female panel-mounted connector 41 are integral in one part, so the connector housing 45 cannot be said to hold the female panel-mounted connector 41 to a panel P. Moreover, the connector housing 45 and the female panel-mounted connector 41 are not *separate components, the body of the device being configured to capture the plug in an interference fit manner* and present a physical connection interface of the plug to the power supply for direct physical mating between the physical connection interface of the plug and the power supply *when the device fastens the plug to*

the frame. The Office Action cited prior art connector plug 3 and connector fixture 9 of Fig. 1A of Tsuji as teaching a separate plug and device. However, the prior art depicted in Fig. 1A does not disclose the plug of the power cord and the body of the device being separate components, *the body of the device being configured to capture the plug in an interference fit manner when the device fastens the plug to the frame*. Furthermore, because the prior art depicted in Tsuji and the invention of Tsuji are not taught in combination, the Examiner bears the burden to prove that it would be obvious to combine the elements taught in the prior art depicted in Tsuji with the invention of Tsuji. However, the Office Action has provided no reasons why a person having ordinary skill in the art would want to combine these elements of the prior art depicted in Tsuji with the invention of Tsuji. Indeed, the invention of Tsuji is presented as an improvement over the prior art depicted in Tsuji. Thus, it is reasonable to assume that if it were obvious to combine the elements, the authors of the Tsuji patent would have mentioned it. Also, it was an object of Tsuji to “provide a panel mounted connector small in the mounting space” (Col. 1, lines 63-66). The invention of Tsuji accomplishes this goal by integrating the connector plug 3 and connector fixture 9 of the prior art into one integral fixture – namely female panel-mounted connector 41. Thus, Tsuji explicitly teaches away from combining the invention of Tsuji with the prior art described in Tsuji.

In addition, the cited portion of Tsuji does not teach a device in which *the body of the device is configured to present a physical connection interface of the plug to the power supply for direct physical mating between the physical connection interface of the plug and the power supply when the device fastens the plug to the frame*. Although female connector 41 connects to male connector 43, these are both connectors attached to wires. Neither of these connectors is an actual functional electrical apparatus. Thus, even assuming that it would be obvious to apply the invention of Tsuji to a power context (and Applicants do not concede that it would be obvious), at best it would be obvious from Tsuji to

connect two power plugs together – not to connect a power plug directly to a power supply. This is because the analogy between a data context and a power context is not without limit. Thus, while a power plug in a power context is analogous to a data plug in a data context, a power supply is analogous to a data processing device or a data signaling device in a data context, but not to a data plug in a data context. Therefore, even allowing that Tsuji discloses a mating between two data plugs in a data context and that this is analogous to a power context, the transfer to a power context would only show a mating between two power plugs, not a mating between a power plug and a power supply.

Thus, neither Van Lieu nor Tsuji discloses an *interference fit*, nor does either Van Lieu or Tsuji disclose a *physical connection interface of the plug to the power supply for direct physical mating between the physical connection interface of the plug and the power supply*. Thus, even if one were to combine the teachings of Van Lieu and Tsuji, at best one would have an integral plug/connector of an external power cord mounting to a frame when connected to another plug of an internal cable connected to an internal power source. However, this combination is far short of what is described in claim 10.

For the reasons stated above, claim 10 patentably distinguishes over the cited prior art, and the rejection of claim 10 under 35 U.S.C. §103(a) should be withdrawn. Accordingly, claim 10 is in allowable condition.

Because claims 13-16, 33-34, and 39 depend from and further limit claim 10, claims 13-16, 33-34, and 39 are in allowable condition for at least the same reasons. Additionally, it should be understood that the dependent claims recite additional features which further patentably distinguish over the cited prior art.

For example, claim 39 recites a device as in claim 10, wherein the body includes a first member and a second member which are configured to allow the plug to become encapsulated when in an open position relative to each other, and encapsulate the plug when in a closed position relative to each other, and

wherein the first member includes a first lateral wall of the lateral walls, the second member includes a second lateral wall of the lateral walls, and the plug interposes between the first member and the second member when the first and second members are in a closed position relative to each other and encapsulate the plug. Applicants were unable to determine how the cited prior art (Official Notice taken of U.S. Patent Reissue No. 32,760 (Chandler, et al.), and elements 41, 45, 3, and 9 of Tsuji) describe the claimed features. If the rejection of claim 39 is to be maintained, Applicants respectfully requests that it be pointed out with particularity where the cited prior art teaches these features.

Claims 2, 5-8, 31-32, and 38

Claim 2 recites a power cord assembly for connecting a power supply to a power source. The power cord assembly includes a power cord having a first plug configured to connect to the power supply, a second plug configured to connect to the power source, and a cable interconnected between the first and second plugs. The power cord assembly also includes a device for fastening the first plug to the frame. The device for fastening the first plug to the frame has limitations similar to those recited in claim 10.

Accordingly, claim 2 distinguishes over the prior art for reasons similar to those presented above in connection with claim 10.

In addition, claim 2 also distinguishes over the cited prior art for additional reasons. For example, the cited prior art does not teach a power cord assembly including *a power cord having a first plug configured to connect to the power supply, a second plug configured to connect to the power source, and a cable interconnected between the first and second plugs*. The Office Action, on page 4 cited various elements from Van Lieu as teaching these features, however, the cited features do not combine or interoperate in a way that allows their combination to perform as recited in claim 2. Thus, although Van Lieu discloses

two power cords 20, 32, two plugs 19, 30, and two power sources 18, 34, these features are arranged in a way that is not consistent with claim 2. Thus, Van Lieu does not disclose a *power cord having a first plug and a second plug*, since each cable 20, 32 of Van Lieu has only a single plug. Similarly, Van Lieu does not disclose a *cable interconnected between the first and second plugs*. Finally, Van Lieu does not disclose a *first plug configured to connect to the power supply, and a second plug configured to connect to the power source*, because neither cable 20, 32 connects to the internal power source 18 and the external power source 34.

For the reasons stated above, claim 2 patentably distinguishes over the cited prior art, and the rejection of claim 2 under 35 U.S.C. §103(a) should be withdrawn. Accordingly, claim 2 is in allowable condition.

Because claims 5-8, 31-32, and 38 depend from and further limit claim 2, claims 5-8, 31-32, and 38 are in allowable condition for at least the same reasons. Additionally, it should be understood that the dependent claims recite additional features which further patentably distinguish over the cited prior art.

Claims 1, 19, 29-30, and 40

Claim 1 recites a data storage system having a frame, operating circuitry supported by the frame, and a power subsystem configured to power the operating circuitry, the power subsystem including (i) a power supply configured to be supported by the frame, and (ii) a power cord assembly for connecting a power supply to a power source. The power cord assembly has limitations similar to those recited in claim 2.

Accordingly, claim 1 distinguishes over the prior art for reasons similar to those presented above in connection with claim 2.

In addition, claim 1 also distinguishes over the cited prior art for additional reasons. For example, the cited prior art does not disclose a *power supply*

configured to be supported by the frame. The Office Action, on page 2, cited the internal power source 18 and the rack 12 of Van Lieu as teaching this feature. However, Applicants were unable to find where the cited reference discloses that the *power supply is configured to be supported by the frame.* If the rejection of claim 1 is to be maintained, Applicant respectfully requests that it be pointed out with particularity where the cited prior art teaches a *power supply configured to be supported by the frame.*

For the reasons stated above, claim 1 patentably distinguishes over the cited prior art, and the rejection of claim 1 under 35 U.S.C. §103(a) should be withdrawn. Accordingly, claim 1 is in allowable condition.

Because claims 19, 29-30, and 40 depend from and further limit claim 1, claims 19, 29-30, and 40 are in allowable condition for at least the same reasons. Additionally, it should be understood that the dependent claims recite additional features which further patentably distinguish over the cited prior art.

Claims 18, 26, 35-37, and 41

Claim 18 recites a method for installing a power supply into a data storage system. Claim 18 recites similar limitations as recited in claim 10, except in a method context.

Accordingly, claim 18 distinguishes over the prior art for reasons similar to those presented above in connection with claim 10.

For the reasons stated above, claim 18 patentably distinguishes over the cited prior art, and the rejection of claim 18 under 35 U.S.C. §103(a) should be withdrawn. Accordingly, claim 18 is in allowable condition.

Because claims 26, 35-37, and 41 depend from and further limit claim 18, claims 26, 35-37, and 41 are in allowable condition for at least the same reasons.

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Additionally, it should be understood that the dependent claims recite additional features which further patentably distinguish over the cited prior art.

Conclusion

In view of the foregoing remarks, this Application should be in condition for allowance. A Notice to this affect is respectfully requested. If the Examiner believes, after this Response, that the Application is not in condition for allowance, the Examiner is respectfully requested to call the Applicants' Representative at the number below.

Applicants hereby petition for any extension of time which is required to maintain the pendency of this case. If there is a fee occasioned by this Response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50-3661.

If the enclosed papers or fees are considered incomplete, the Patent Office is respectfully requested to contact the undersigned collect at (508) 616-2900, in Westborough, Massachusetts.

Respectfully submitted,

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